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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,863	09/30/2003	David Alexander Russell	WEAT/0275	1881

36735 7590 06/05/2006

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EXAMINER
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BELLAMY, TAMIKO D

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/675,863

Applicant(s)

RUSSELL ET AL.

Examiner

Tamiko D. Bellamy

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-14 and 31-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-14 and 31-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, and 5-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fraser (3,517,546)

Re claim 1, as depicted in fig. 1, Fraser discloses generating an interaction between the pipeline pig (e.g., pig housing 12) and the inner diameter of a pipeline (10). Fraser discloses generating data representative of an acoustical characteristic of the pipeline (Col. 4, lines 2-22). As depicted in fig. 2, Fraser discloses selecting a seal diameter (e.g., scrapper cups 13) and seal thickness to generate from the interaction between the pipeline pig (e.g. pig housing 12) and the inner diameter of the pipeline (Col. 2, lines 63-72). Fraser discloses vibration frequency data characteristic of the internal condition of the pipeline (Col. 2, lines 10-34). While, Fraser does not specifically disclose a pig guide diameter, Fraser discloses a seal diameter (e.g., scrapper cups 13), which functions as a combination of a seal and a guide. Official notice is taken wherein it is well known in the art to use a pig guide. Therefore to employ Fraser on a selecting a pig guide diameter would have been obvious to one having ordinary skill in the art at the time of the invention since the reference explicitly teaches the use of a pipeline pig for

Art Unit: 2856

determining a condition of a pipeline including a selecting a seal diameter, which generates vibration and guides the pig through a pipeline.

Re claim 2, Fraser discloses the acoustical characteristic is vibration frequency (Col. 3, lines 20-21).

Re claim 3, Fraser discloses the acoustical characteristic is vibration amplitude (Col. 3, lines 20-21).

Re claim 5, Fraser discloses controlling the speed of travel of the pipeline pig (12) (Col. 3, lines 11-15).

Re claim 6, Fraser discloses determining the speed of travel of the pipeline pig (12) (Col. 3, lines 11-15).

Re claim 7, Fraser discloses determining the position of the pipeline pig (Col. 3, lines 8-10).

Re claim 8, Fraser discloses filtering the data (Col. 4, line 15).

Re claim 9, Fraser discloses first and second sensors (e.g., hydrophones 15, 14) encountering a physical condition in the pipeline.

Re claim 10, Fraser discloses determining a condition correlating two frequency data representative of the pig position and the speed of travel of the pig along the pipeline (Col. 3, lines 8-15; Col. 4, lines 6-13).

Re claim 11, Fraser discloses removing frequency responses resulting from the pig passing known structures in the pipeline (10) (Col. 4, lines 2-16).

Re claim 12, Fraser discloses the known structures include joints and bends (Col. 2, lines 38-42).

Art Unit: 2856

Re claims 13 and 14, Fraser discloses identifying known patterns (Col. 4, lines 2-16).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 15, 16, and 31-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Fraser (3,517,546).

Re claim 15, as depicted in fig. 1, Fraser discloses passing a pig (12) axially through the pipeline. Fraser discloses sensing the frequency response generated in the pipeline and analyzing the data representative of a condition of the pipeline (10) (Col. 3, lines 18-21).

Re claim 16, Fraser discloses the sensors (e.g., hydrophones 15, 14) are coupled to a band pass amplifier (20, 21), which pass frequencies above 30,000 Hz and rejects frequencies below this level. The band pass amplifier is a type of analyzer. Although the analyzer (e.g., band pass amplifier 20, 21) rejects frequencies below 30,000 Hz, the frequencies between 75 to 300 Hz are still analyzed.

Re claim 31, as depicted in fig. 1, Fraser discloses interfacing a portion of the pig (12) with the inner surface of the pipeline (10). Fraser discloses a seal (e.g., scrapper cups 13), which inherently induces a vibration in a portion of the pipeline pig (12) as the

Art Unit: 2856

pig moves through the pipeline (10). Fraser discloses that the sensors (e.g., hydrophones 15, 14) detect all noises that occur in the pipeline. The detection of noise is equivalent to sensing the vibration.

Re claim 32, Fraser discloses using the vibration/noise to infer a condition of the pipeline (Col. 4, lines 7-13).

Re claim 33, Fraser discloses determining a condition correlating two frequency data representative of the pig position and the speed of travel of the pig along the pipeline (Col. 3, lines 8-15; Col. 4, lines 6-13).

Re claim 34, Fraser discloses identifying known patterns (Col. 4, lines 2-16).

Re claim 35, Fraser discloses sensing vibration frequency (Col. 3, lines 20-21).

Re claim 36, Fraser discloses sensing vibration amplitude (Col. 3, lines 20-21).

Re claim 37, Fraser discloses controlling the speed of travel of the pipeline pig (12) (Col. 3, lines 11-15).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-3, 5-14, and 31-37 have been considered but are moot in view of the new ground(s) of rejection. It is the examiners position that claims 1-3, 5-14, and 31-37 are not patentable in view of the newly applied art of Fraser (3,517,546).

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamiko D. Bellamy whose telephone number is (571) 272-2190. The examiner can normally be reached on Monday - Friday 7:30 AM to 3:30 PM.


Art Unit: 2856

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tamiko Bellamy

T.B.  
May 30, 2006



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